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CENTRAL FAX CENTER

SEP 13 2007

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A method of testing a
2 firewall comprising:

3 transmitting at least one of a session initiation
4 signal to initiate a communications session through said
5 firewall and a session termination signal used to
6 terminate terminate an established communications
7 session; and

8 monitoring to determine from the time of at least one
9 transmitted signal at least one of a port opening delay
10 which occurs in regard to opening a port in said firewall
11 for a communications session that is being initiated and a
12 port closing delay which occurs in regard to closing a port
13 in said firewall when terminating an established
14 communications session.

1 Claim 2 (original): The method of claim 1, further
2 comprising:

3 transmitting session signals at an increasing rate
4 through said firewall to cause at least one of the opening
5 and closing of ports in said firewall; and

6 measuring the effect of said increasing rate of
7 session signals on at least one of an opening and a closing
8 delay time associated with opening a port and closing a
9 port, respectively, in response to transmitted session

10 signals. 09/13/2007 PCHAMP 00000028 501049 10679222

02 FC:1201 600.00 DA
03 FC:1202 600.00 DA

1 Claim 3 (original): The method according to claim 1,

2 wherein said at least one of a port opening delay and a
3 port closing delay is a port closing delay.

1 Claim 4 (original): The method of claim 3, further
2 comprising:

3 transmitting session signals at an increasing rate
4 through said firewall to cause at least one of the opening
5 and closing of ports in said firewall; and
6 measuring the effect of said increasing rate of
7 session signals on at least one of an opening and a closing
8 delay time associated with opening a port and closing a
9 port, respectively, in response to said session signals.

1 Claim 5 (original): The method of claim 4, further
2 comprising:

3 determining an average closing delay for each of a
4 plurality of different session signaling rates.

1 Claim 6 (original): The method of claim 5, further
2 comprising:

3 generating a visual display of a graph illustrating
4 the average closing delay for a plurality of different
5 session signaling rates.

1 Claim 7 (original): A method of testing a network firewall
2 comprising:

3 transmitting a session signal to terminate an ongoing
4 communications session being conducted through at least one
5 port of said firewall; and

6 measuring a port closing delay time associated with
7 the closing of said at least one port following the
8 transmission of said signal to terminate said

9 communications session.

1 Claim 8 (original): The method of claim 7, wherein said
2 port closing delay is a time period which occurs between
3 the time a signal used to cause the closing of the port is
4 detected and said port ceases to allow communications
5 signals to pass through from the first side of said
6 firewall to the second side of said firewall.

1 Claim 9 (original): The method according to claim 8,
2 further comprising the steps of:

3 transmitting test signals at said port prior to the
4 closing of said port; and
5 monitoring the port to determine when said test
6 signals cease passing through said port.

1 Claim 10 (original): The method of claim 7, further
2 comprising:

3 repeating said initiating transmitting and measuring
4 steps while increasing a rate of session signals sent to
5 said firewall to load said firewall; and
6 monitoring changes in port closing delay times in
7 response to said increasing rate of session signals to
8 determine effect of increasing levels of session signaling
9 on closing delay times.

1 Claim 11 (original): The method of claim 10, further
2 comprising:

3 determining the level of session signaling that causes
4 a closing delay time which exceeds a preselected maximum
5 closing delay time.

1 Claim 12 (original): The method of claim 10, further
2 comprising:

3 determining the amount of firewall processing power
4 required for a particular application based on an expected
5 traffic load and said monitored information indicating the
6 effect of session signaling of different loads on said
7 closing delay.

1 Claim 13 (original): The method of claim 7, wherein said
2 session signal is at least one of SIP and H.323 compliant
3 signals.

1 Claim 14 (original): A method of testing a network
2 firewall, comprising:

3 transmitting a session signal to initiate a
4 communications session to be conducted through said
5 firewall;

6 transmitting test signals to at least one port on a
7 first side of said firewall;

8 determining a time when said test signals first pass
9 through said at least one port, said at least one port
10 being opened in response to said signal to initiate a
11 communications session; and

12 determining a port opening delay which occurs in
13 regard to opening a port in said firewall for said
14 communications session from said determined time.

1 Claim 15 (original): The method of claim 14, wherein said
2 port opening delay is a time period which occurs between a
3 time a signal used to cause the port for said
4 communications session to open is detected and said port
5 allows a signal to pass through from the first side of said

6 firewall to the second side of said firewall.

1 Claim 16 (original): The method according to claim 15,
2 further comprising the step of:

3 transmitting another session signal to terminate said
4 communications session; and

5 monitoring a port closing delay time corresponding to
6 a port closing delay which occurs in regard to closing the
7 port in said firewall that was opened for said
8 communications session.

1 Claim 17 (original): The method of claim 16, wherein said
2 port closing delay is a time period which occurs between
3 the time a signal used to cause the closing of the port is
4 detected and said port ceases to allow communications
5 signals to pass through from the first side of said
6 firewall to the second side of said firewall.

1 Claim 18 (original): The method of claim 14, further
2 comprising the steps of:

3 transmitting session signals at an increasing rate
4 through said firewall to cause at least one of the opening
5 and closing of ports in said firewall; and

6 measuring the effect of said increasing rate of
7 session signals on at least one of an opening and closing
8 delay time associated with opening and closing ports,
9 respectively, in response to said session signals.

1 Claim 19 (original): The method of claim 18, wherein said
2 session signals are at least one of SIP and H.323 compliant
3 signals.

1 Claim 20 (original): A firewall test apparatus,

2 comprising:

3 a session signaling module for generating session
4 signals used to initiate a communications session to be
5 conducted through a firewall to be tested and to terminate
6 a communications session after it has been initiated;

7 a scanning probe generation module for generating
8 probe signals to be directed at firewall ports;

9 a timing synchronization module for synchronizing
10 operation of said firewall test apparatus to at least one
11 of an external clock source and another firewall test
12 apparatus; and

13 an analysis module for determining at least a port
14 closing delay from a session signal time and a time probe
15 signals are detected to stop passing through a port in said
16 firewall corresponding to an initiated communications
17 session.

1 Claim 21 (original): The firewall test apparatus of claim
2 20, wherein said analysis module further includes means for
3 determining at least a port opening delay from a session
4 signal time associated with a session signal used to
5 initiate a communications session and a time probe signals
6 are detected to start passing through a port in said
7 firewall corresponding to the initiated communications
8 session.

1 Claim 22 (original): The firewall test apparatus of claim
2 21, wherein said session signaling module includes means
3 for flooding said firewall with increasing amounts of
4 session signal traffic used to initiate and terminate
5 communications sessions.

1 Claim 23 (original): The firewall test apparatus of claim
2 22, wherein said analysis module includes:

3 means for determining the effect of increasing amount
4 of session signaling flooding said firewall on the closing
5 delays associated with terminating existing communications
6 sessions.

1 Claim 24 (original): The firewall test apparatus of claim
2 23, further comprising:

3 an output device for outputting a report showing the
4 effect of flooding said firewall with increasing amounts of
5 session signals on the closing delays associated with
6 terminating existing communications sessions.

1 Claim 25 (original): A firewall test system for testing a
2 firewall, comprising:

3 a test signal generator for generating communications
4 session initiation signals and probe signals directed at a
5 first side of said firewall; and

6 a test signal analyzer for detecting probe signals
7 passing through said first side of said firewall to said
8 second side of said firewall and for determining port
9 closing delays as measured from the time the test signal
10 analyzer detects a signal used to close a port in said
11 firewall and said analyzer ceases to detect test signals
12 passing through said firewall.

1 Claim 26 (original): The firewall test system of claim 25,
2 wherein said test signal generator further includes:

3 means for establishing a communications session
4 through said firewall using session initiation signals
5 prior to transmitting at least some of said probe signals.

1 Claim 27 (original): The firewall test system of claim 26,
2 wherein said test signal generator includes means for
3 synchronizing test signal generation to an outside clock
4 source; and
5 wherein said signal analyzer includes means for
6 synchronizing device operation with said outside clock
7 source.

1 Claim 28 (original): The firewall test system of claim 27,
2 wherein said test signal generator includes means for
3 flooding said firewall with session signals which trigger
4 the opening or the closing of ports in said firewall.

1 Claim 29 (original): The firewall test system of claim 28,
2 wherein said test analyzer further includes:
3 means for measuring the effect of increasing the rate
4 of session signals on port closing times following the
5 termination of a communications session.

1 Claim 30 (original): A method of testing a firewall,
2 comprising the steps of:
3 transmitting session signals used to control at least
4 one of the establishment and termination of communications
5 sessions through said firewall at an increasing rate; and
6 measuring the effect of the increasing rate of session
7 signals on port closing delays associated with the
8 termination of communications sessions through said
9 firewall.

1 Claim 31 (original): The method of claim 30, further
2 comprising;
3 determining the session signal rate which results in a
4 maximum acceptable port closing delay being exceeded.

1 Claim 32 (original): The method of claim 31, wherein
2 said transmitted session signals are at least one of SIP
3 signals and H.323 signals.